

ABSTRACT OF THE DISCLOSURE

Stent delivery devices include at least one implantable stent carrier and/or membrane for carrying multiple stents or stent segments over an expandable member. At least a portion of the implantable carrier is expandable by the expandable member to deploy the portion of the carrier and one or more stent segments disposed thereon. A sheath may be retracted to expose and expand a distal portion of the expandable member to expand and deploy a distal portion of the carrier and the stent segment(s) disposed thereon. Stent delivery devices and methods provide enhanced delivery of multiple stents or stent segments by delivering the segments while coupled with one or more implantable carriers and/or membranes that are typically flexible and dividable.